National Institute of Standards & Technology

Certificate

Standard Reference Material 49e

Lead

Secondary Freezing Point Standard

(International Temperature Scale of 1990)

327.453 °C

Standard Reference Material (SRM) 49e is intended primarily for use in preparing secondary reference-point devices for calibrating thermometers, thermocouples and other temperature measuring devices. It consists of a 600 gram bar of a carefully selected lot of electrolytic special high-grade lead.

The freezing-point temperature given above is that of representative samples from lot 49e. This is a secondary standard and its freezing-point temperature is not necessarily the same as that of pure lead. It is estimated that the uncertainty in NIST certified value of the freezing-point temperature does not exceed ± 0.005 °C.

Full details of the precautions that should be observed in freezing point determinations are given in National Bureau of Standards Circular 590. The International Temperature Scale of 1990 is described in Metrologia 27, No. 1, 3 (January 1990).

This certificate is a revision of the certificate dated December 6, 1971. The changes consist primarily of the conversion of temperatures on the IPTS-68 to those on the ITS-90 by B.W. Mangum of the Chemical Process Metrology Division.

The technical and support aspects involved in the revision, update and issuance of this Standard Reference Material were coordinated through the Standard Reference Materials Program by J.C. Colbert. The original coordination of certification efforts was performed by R.E. Michaelis.

Gaithersburg, MD 20899
April 5, 1990
(Revision of certificate dated 12-6-71)

William P. Reed, Acting Chief
Standard Reference Materials Program